Project Design Phase-II
Project Planning Document

Date	19 October 2023
Team ID	PNT2023TMID593074
Project Name	Arming Against Violence - YOLO-Based Weapon Detection
Maximum Marks	4 Marks

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Project setup & Infrastructure	USN-1	As a developer, I aim to configure the development environment with the essential tools and frameworks for initiating the YOLO weapon detection project.	1	High	Girish K
Sprint-1	Data collection	USN-2	As a developer, I aim to procure a diverse dataset of images featuring various types of weapons to be used for training the deep learning model.	2	High	Girish K
Sprint-2	data preprocessing	USN-3	As a developer, I want to preprocess the collected dataset by resizing images, normalizing pixel values, and splitting it into training and validation sets.	3	High	Girish K
Sprint-2	Model Selection	USN-4	As a developer, I aim to investigate and assess various deep learning architectures, such as CNNs, to determine the most suitable model for weapon detection using the YOLO framework.	3	High	Charvi
Sprint-3	Training	USN-5	As a developer, I am responsible for training the chosen deep learning model using the pre-processed dataset and closely monitoring its performance on the validation set.	4	High	Sukanth
Sprint-3	Testing & quality assurance	USN-6	As a developer, I'd like to enhance the model's resilience and accuracy, I would like to incorporate data augmentation methods such as rotation and flipping.	4	Medium	Girish K
Sprint-4	model deployment & Integration	USN-7	As a developer, I'd like to deploy a deep learning model that has been trained for weapon detection as an API or web service. I want to	3	Medium	Charvi

			integrate this model's API into a user-friendly web interface where users can upload images and obtain classification results for the type of garbage in the image.			
Sprint-4	Application testing	USN 8	I plan to perform comprehensive testing of both the model and the web interface, with the aim of discovering and documenting any potential problems or bugs. I will then fine-tune the model's hyperparameters and optimize its performance based on user feedback and the results obtained from the testing.	2	**Medium**	**Charvi**

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	3	2 Days	16th Oct 2023	17th Oct 2023	22	
Sprint-2	6	4 Days	18th Oct 2023	21st Oct 2023		
Sprint-3	8	3 Days	22nd Oct 2023	24th Oct 2023		
Sprint-4	5	3 Days	25th Oct 2023	27th Oct 2023		

Velocity:

Imagine we have a 29-days sprint duration, and the velocity of the team is 20 (points per sprint). Let us calculate the team's average velocity (AV) per iteration unit (story points per day)

Formula

$$AV = \frac{sprint\ duration}{velocity}$$

Average calculation

22/10 = 2.2

Burndown Chart

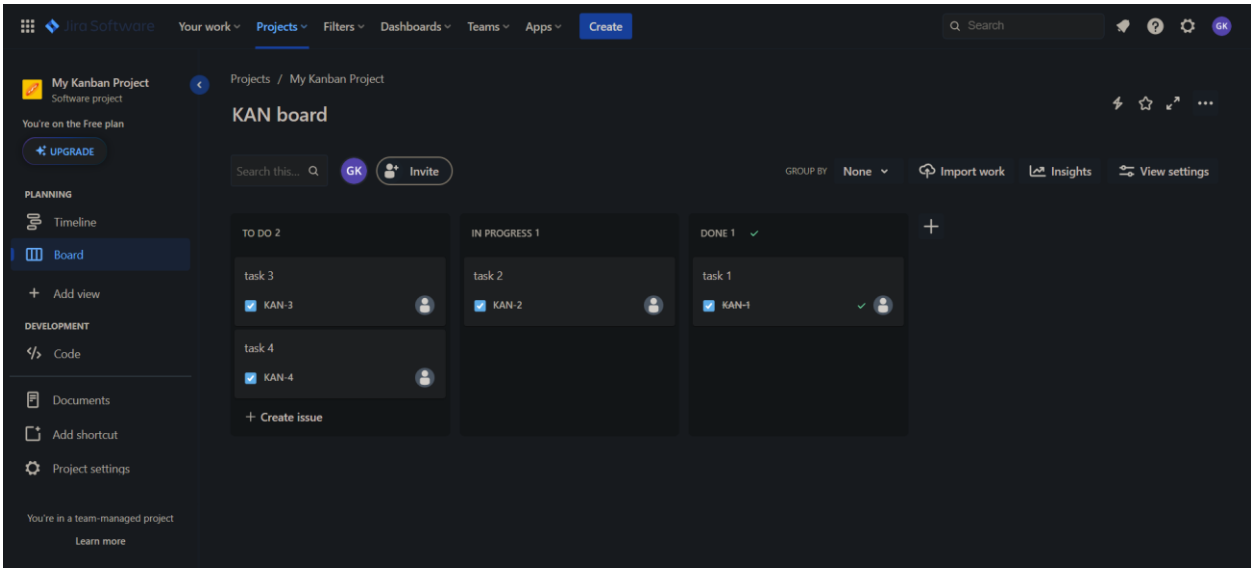
A burndown chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

https://www.visual-paradigm.com/scrum/scrum-burndown-chart/
https://www.atlassian.com/agile/tutorials/burndown-charts

Reference:
https://www.atlassian.com/agile/project-management
https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software
https://www.atlassian.com/agile/tutorials/epics
https://www.atlassian.com/agile/tutorials/sprints
https://www.atlassian.com/agile/project-management/estimation
https://www.atlassian.com/agile/tutorials/burndown-charts

Board section

We have completed sprint 1 and 2. So we can see the remaining tasks on board.



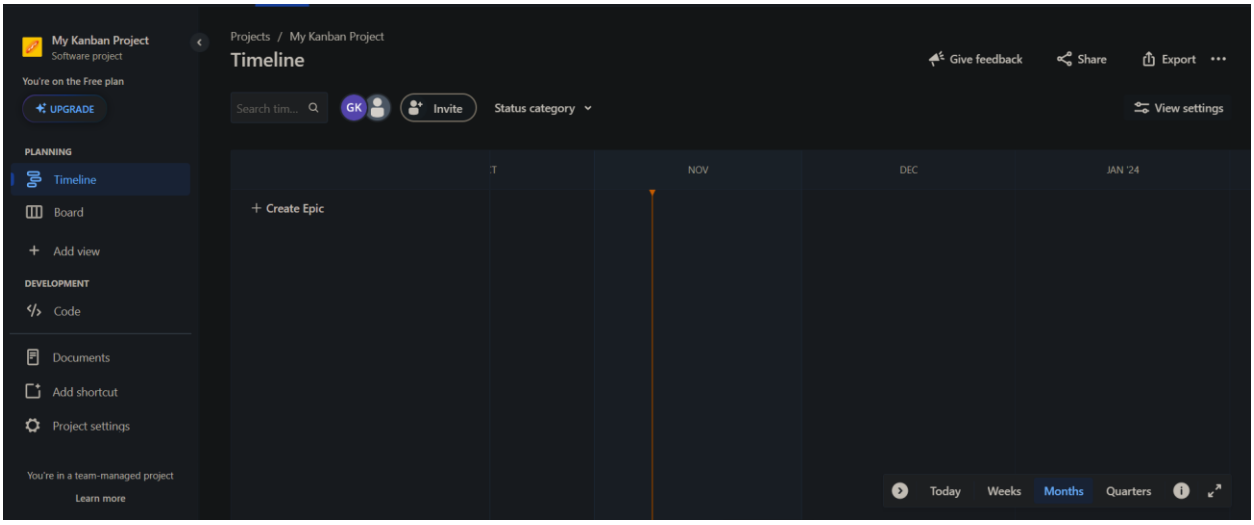
Details of the task were discussing in regularly held google meets with the team where all details of the tasks were assigned and noted

Backlog section

We have had no significant backlogs during the project

Timeline

We did not use this tool; we kept the timelines dynamic as the project contained many unknowns.


My Kanban Project
Software project
You're on the Free plan
UPGRADE
PLANNING
Timeline
Board
Add view
DEVELOPMENT
Code
Documents
Add shortcut
Project settings
You're in a team-managed project
Learn more
Projects / My Kanban Project
Timeline
Give feedback
Share
Export
Search tim...
GK
Invite
Status category
View settings
NOV
DEC
JAN '24
Create Epic
Today
Weeks
Months
Quarters